

Message

From: Cummings, James [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=5BB042E58D12457BA91A8DC551F44BA9-JCUMMING]
Sent: 1/26/2018 5:38:20 PM
To: Davis, Eva [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d2bb073c80be4f5482e94ffe2031042b-Davis, Eva]
Subject: RE: RAO's for STAR Pitt Consol project

Enjoyed the disc.

Neglected to mention that the Geosyntec woman said she would see if she can share the ROCV reports from Pitt Consol.

Ex. 5 Deliberative Process (DP)

-----Original Message-----

From: Davis, Eva
Sent: Friday, January 26, 2018 10:14 AM
To: Cummings, James <Cummings.James@epa.gov>
Subject: RE: RAO's for STAR Pitt Consol project

Ex. 5 Deliberative Process (DP)

First of the reports to review are due in ~ 1 week - it should be an interesting summer.

I'd still like to see the reports from the Pitt Consol project if you can get any of them -

-----Original Message-----

From: Cummings, James
Sent: Thursday, January 25, 2018 5:34 PM
To: Davis, Eva <Davis.Eva@epa.gov>
Subject: RE: RAO's for STAR Pitt Consol project

Sorry for the blizzard/barrage of lengthy emails.

Ex. 5 Deliberative Process (DP)

Jim Cummings
Technology Assessment Branch
703-603-7197(O)
703-603-9135(FaxO)

From: Davis, Eva
Sent: Thursday, January 25, 2018 5:02 PM
To: Cummings, James
Subject: RE: RAO's for STAR Pitt Consol project

Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

-----Original Message-----

From: Cummings, James
Sent: Thursday, January 25, 2018 11:01 AM
To: Davis, Eva <Davis.Eva@epa.gov>
Subject: RE: RAO's for STAR Pitt Console project

Ex. 5 Deliberative Process (DP)

Jim Cummings
Technology Assessment Branch
703-603-7197(O)
703-603-9135(FaxO)

From: Davis, Eva
Sent: Thursday, January 25, 2018 11:43 AM
To: Cummings, James
Subject: RE: RAO's for STAR Pitt Console project

I'll be in Friday am if you want to discuss.

Ex. 5 Deliberative Process (DP)

-----Original Message-----

From: Cummings, James
Sent: Thursday, January 25, 2018 10:28 AM
To: Davis, Eva <Davis.Eva@epa.gov>
Subject: RE: RAO's for STAR Pitt Console project

I almost called you yesterday to discuss.

Ex. 5 Deliberative Process (DP)

A useful discussion would be

Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

I will be in on Fri if a disc might be of interest.

Ex. 5 Deliberative Process (DP)

Jim Cummings
Technology Assessment Branch
703-603-7197(O)
703-603-9135(Fax0)

From: Davis, Eva
Sent: Thursday, January 25, 2018 10:46 AM
To: Cummings, James; Cerise, Kathy
Cc: Susan Moore; Fuentes, Rene; Cole, Jason/BOS
Subject: RE: RAO's for STAR Pitt Consol project

Ex. 5 Deliberative Process (DP)

From: Cummings, James
Sent: Wednesday, January 24, 2018 2:39 PM
To: Cerise, Kathy <Cerise.Kathryn@epa.gov>
Cc: Susan Moore <Susan.Moore@CH2M.com>; Fuentes, Rene <fuentes.rene@epa.gov>; Cole, Jason/BOS <Jason.Cole@CH2M.com>; Davis, Eva <Davis.Eva@epa.gov>
Subject: RE: RAO's for STAR Pitt Consol project

Ex. 5 Deliberative Process (DP)

Bottom Lines:

Ex. 5 Deliberative Process (DP)

From: Davis, Eva
Sent: Wednesday, January 24, 2018 11:35 AM
To: Cummings, James <Cummings.James@epa.govmailto:Cummings.James@epa.gov>; Cerise, Kathy <Cerise.Kathryn@epa.govmailto:Cerise.Kathryn@epa.gov>

Cc: Susan Moore <Susan.Moore@CH2M.com<mailto:Susan.Moore@CH2M.com>>; Fuentes, Rene
<fuentes.rene@epa.gov<mailto:fuentes.rene@epa.gov>>; Cole, Jason/BOS
<Jason.Cole@CH2M.com<mailto:Jason.Cole@CH2M.com>>
Subject: RE: RAO's for STAR Pitt Consol project

Ex. 5 Deliberative Process (DP)

From: Cummings, James
Sent: Wednesday, January 24, 2018 8:10 AM
To: Cerise, Kathy <Cerise.Kathryn@epa.gov<mailto:Cerise.Kathryn@epa.gov>>; Davis, Eva
<Davis.Eva@epa.gov<mailto:Davis.Eva@epa.gov>>
Cc: Susan Moore <Susan.Moore@CH2M.com<mailto:Susan.Moore@CH2M.com>>; Fuentes, Rene
<fuentes.rene@epa.gov<mailto:fuentes.rene@epa.gov>>; Cole, Jason/BOS
<Jason.Cole@CH2M.com<mailto:Jason.Cole@CH2M.com>>
Subject: FW: RAO's for STAR Pitt Consol project

Per my previous, I attempted to get a sense of the Remedial Action Objectives (RAOs) for the STAR project at the DuPont Pitt Consol NJ facility. This is what the Geosyntec folks provided.

May be of some use for Quendall, however as noted, Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP) I will ask in a follow-on discussion.

From: Marlaina Auger [mailto:MAuger@Geosyntec.com]
Sent: Tuesday, January 23, 2018 10:38 PM
To: Cummings, James <Cummings.James@epa.gov<mailto:Cummings.James@epa.gov>>
Cc: Gavin Grant <ggrant@savronsolutions.com<mailto:ggrant@savronsolutions.com>>
Subject: FW: RAO's

Hi Jim,

Happy to help answer your questions. And pleasure to "meet" you, albeit in the world of email.

As Gavin said, I am the project manager for Geosyntec for the Pitt-Consol site and we have actively been working through both remediation, and measurements of success of that remediation (remedy verification), as we proceed. We have developed a robust and repeatable methodology to remedy verification, which, specific to New Jersey requirements for remediation, is the treatment of free product. Our approach to remedy verification is based on the NJDEP Technical Guidance for Site Investigation of Soil, Remedial Investigation of Soil, and Remedial Action Verification Sampling for Soil (NJDEP, 2015) for in situ technologies and for determination of free product as defined in the N.J.A.C 7:26E Technical Requirements for Site Remediation (N.J.A.C 7:26E-1.8) and NJDEP Site Remediation Program: Protocol for Addressing Extractable Petroleum Hydrocarbons Version 5.0 August 9, 2010 (NJDEP, 2010). Multiple line of evidence are used to assess the presence of free product, as documented in US EPA's Ground Water Issue newsletter entitled Assessment and Delineation of DNAPL Source Zones at Hazardous Waste Sites (Kueper and Davies, 2009). As you may know, Pitt-Consol is a 37-acre parcel with about a third of that requiring treatment for free product. On this basis and the client's timeframe for remediation, it has been important for us to assess success as we progress through STAR operations.

One item to clarify before I continue: I believe when you ask about RAO's, you are inquiring into Remedial Action Objectives - is that correct? I ask for clarification because in NJDEP the term RAO has a very specific reference, and that is to a "Response Action Outcome". A RAO (N.J.A.C 7:26C-1.3 and 6.2) in NJDEP is issued when remediation has been completed in accordance with all applicable regulations and guidance and the remedial action undertaken is protective of public health, safety, and the environment. We are seeking a RAO for the Pitt-Consol site, following the completion of free product treatment and other protective measures such as construction of a cap and engineering and institutional controls. All that said, I do believe your question is focused towards the more typical use of the term, RAO, that being Remedial Action Objectives. We would also note that the NJDEP has a LSRP program and under this program a licensed state professional can be retained. This site has been opted into the LSRP program and as such the remediation of the site is under the guidance of the LSRP.

The objectives for STAR at Pitt-Consol is the remediation of free product. On this basis, we developed a methodology that we call remedial operations and compliance verification (ROCV). This methodology looks

at both how well operations performed and post-treatment characterization. Assessment of STAR operations includes a review and evaluation of process monitoring data. This includes air injection flow rates, interstitial thermocouple (ITC) results, duration of the STAR treatment cycle, and the mass destruction rate and cumulative mass destroyed over the course of STAR operations. Post-treatment characterization assesses whether we have met the objectives for the STAR application (free product treatment) - i.e., effectiveness monitoring.

Free product is evaluated through a multiple lines of evidence approach, utilizing field screening techniques (soil core PID and visual observations, and TarGOST) and analytical assessment (NJDEP screening criteria for extractable petroleum hydrocarbon [EPH] compounds). The spatial assessment of post-treatment verification sampling is performed in accordance with NJDEP guidance for evaluating in situ technologies. More specifically, this means we evaluate the performance of STAR on a basis of one location per 900 square feet in the x-y plane. With depth, the performance of STAR is assessed for every 2-foot interval of previously impacted material. To clarify this last point, using pre-treatment data we establish the depth interval and thickness of our target treatment zone and use that information to define the interval and thickness of our post-treatment characterization.

The ROCV process in place has shown STAR to be a successful remedial technology. Through 2017, we have completed more than 40 ROCV reports documenting the results of implementing STAR and the associated verification process.

The above information is an attempted 'brief' summary, but happy to discuss more with you and hear what questions you have.

Regards,

Marlaina Auger

519.515.0841

-----Original Message-----

From: Gavin Grant

Sent: Monday, January 22, 2018 8:21 AM

To: Cummings, James <Cummings.James@epa.gov><mailto:Cummings.James@epa.gov>>

Cc: Marlaina Auger <MAuger@Geosyntec.com><mailto:MAuger@Geosyntec.com>>

Subject: RE: RAO's

Jim,

I've cc'd Marlaina Auger who is the project manager for Geosyntec on the Pitt Consol project. She understands this stuff better than anyone so I've asked her to help answer your question. Can I assume this has been prompted by Quendall?

Regards,

Gavin

-----Original Message-----

From: Cummings, James [mailto:Cummings.James@epa.gov]

Sent: Thursday, January 18, 2018 9:28 AM

To: Gavin Grant <ggrant@savronsolutions.com><mailto:ggrant@savronsolutions.com>>

Subject: RAO's

Happy New Year.

Realized that I never got a handle on RAO's for Pitt Consol or any other STAR application where 'success' measures were specified. Might such information be available?

This is not an idle inquiry.

Thnks.

Jim Cummings

Technology Assessment Branch

703-603-7197(O)

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